CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377

Job No.: CTCE/BBMP/W.No.09/MSM/CSR-06/064e/CEMENT/2016-17 Date: 15.06.2016

TEST REPORT ON CEMENT

* CUSTOMER	:	**Asst. Executive Engineer**, Vidyaranyapura Sub Division, BBMP, Bangalore.
*AGENCY	:	**Mr. M. Srinivasa Murthy,** #17, Jyothi Gas Godown, 6th Cross, Kurubarahalli, Bangalore – 86.
*NAME OF THE WORK	:	Improvements and Asphalting to roads, drains and Construction of culverts at Deshabandunagar, Puttanjinappa Layout & Krishna Temple area in Ward No.09 Vidyaranyapura Sub Division, BBMP, Bangalore.
*REFERENCE	:	AEE/BBMP/VSD/PR/275/2016-17 Dated: 13.06.2016
SAMPLE ID	:	Cement
SAMPLE RECEIVED ON	:	13.06.2016
PERIOD OF TESTING	:	13.06.2016 to 15.06.2016

The results of the tests conducted on the cement sample are as follows:

Sl. No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-2013
1	Standard Consistency	IS-4031 (Part -4) 1988(RA-2009)	29.00 %	-
2	a) Initial Setting Time	IS-4031 (Part -5) 1988(RA-2009)	150 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5) 1988(RA-2009)	490 Minutes	Not More than 600 Minutes
3	Soundness by Le Chartlier Method	IS-4031 (Part-3) 1988(RA-2009)	1 mm	Not more than 10mm

*Information is furnished by the Customer/Representative.

Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore - 97

Civil-Tech Consultants & Engineers, Bangalore

Note:

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⇒ Any Query regarding the report must be reported within 30 days from the date of testing.

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VISHWANATH .C
Quality Manager

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

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Job No.: CTCE/BBMP/W.No.09/MSM/CSR-06/064e/SAND-Gradation/2016-17 : 15.06.2016

TEST REPORT ON DETERMINATION GRADATION OF FINE AGGREGATES

*** Customer** : **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.

*** Agency** : **Mr. M. Srinivasa Murthy,**
#17, Jyothi Gas Godown, 6th Cross, Kurubarahalli, Bangalore – 86.

*** Name of Work** : Improvements and Asphalting to roads, drains and Construction of culverts at Deshabandunagar, Puttanjinappa Layout & Krishna Temple area in Ward No.09 Vidyaranyapura Sub Division, BBMP, Bangalore.

Reference : AEE/BBMP/VSD/PR/275/2016-17 Dated: 13.06.2016

Technical Reference : IS : 2386 Part 1 - 1963 RA-2007

Sample ID : Fine Aggregates

Sample Received on : 13.06.2016

Date of Testing : 15.06.2016

Total Wt. of Aggregates in gms **1000**

Is Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2007)			
		Zone-I	Zone-II	Zone-III	Zone-IV
10	100	100	100	100	100
4.75	96.40	90-100	90-100	90-100	95-100
2.36	77.90	60-95	75-100	85-100	95-100
1.18	55.90	30-70	55-90	75-100	90-100
600 Micron	27.90	15-34	35-59	60-79	80-100
300 Micron	13.90	5-20	8-30	12-40	15-50
150 Micron	5.40	0-10	0-10	0-10	0-15

* Information is furnished by the Customer/Representative

Remarks : This sample is under Zone-I specific limits.

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Assistant Executive Engineer Vidyaranyapura Sub Division BBMP, Bangalore 97

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Job No.: CTCE/BBMP/W.No.09/MSM/CSR-06/064e/AGG/GR/2016-17 : 15.06.2016

TEST REPORT ON DETERMINATION GRADATION OF COARSE AGGREGATES

* Customer	: **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
* Agency	: **Mr. M. Srinivasa Murthy,** #17, Jyothi Gas Godown, 6th Cross, Kurubarahalli, Bangalore – 86.
* Name of Work	: Improvements and Asphalting to roads, drains and Construction of culverts at Deshabandunagar, Puttanjinappa Layout & Krishna Temple area in Ward No.09 Vidyaranyapura Sub Division, BBMP, Bangalore.
Reference	: AEE/BBMP/VSD/PR/275/2016-17 Dated: 13.06.2016
Technical Reference	: IS : 2386 Part 1 -1963 RA-2007
Sample ID	: Coarse Aggregates (40mm)
Sample Received on	: 13.06.2016
Date of Testing	: 15.06.2016

Total Wt. of Aggregates in gms= **7000**

Is Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2007)	
		Graded	Single Sized
80	100	100	-
63	100	-	100
40	97.79	95-100	85-100
20	36.36	30-70	0-20
10	13.71	10-35	0-5
4.75	3.00	0-5	-

Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore - 97

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Remarks : This sample is under Graded specific limits.

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JAS-ANZ BSCIC ISO 9001 REGISTERED

Job No.: CTCE/BBMP/W.No.09/MSM/STEEL/2016-17 17.06.2016

TEST REPORT ON REINFORCEMENT STEEL

Customer	:	**Asst. Executive Engineer**, Vidyaranyapura Sub Division, BBMP, Bangalore.
Agency	:	**Mr. M. Srinivasa Murthy,** #17, Jyothi Gas Godown, 6th Cross, Kurubarahalli, Bangalore – 86.
Name of the Work	:	Improvements and Asphalting to roads, drains and Construction of culverts at Deshabandunagar, Puttanjinappa Layout & Krishna Temple area in Ward No.09 Vidyaranyapura Sub Division, BBMP, Bangalore.
Reference	:	AEE/BBMP/VSD/PR/275/2016-17 Dated: 13.06.2016
Date of Test	:	17.06.2016
Technical Reference	:	IS: 1786-2008

Assistant Executive Engineer Vidyaranyapura Sub Division BBMP, Bangalore - 97

Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm^2	Tensile strength (Ultimate stress) N/mm^2	Elongation percent gauge length		
1	8	0.40	510	552	13.10	O.K	O.K

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23/14, 7th Cross, 3rd Stage,
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Basaveshwaranagar,
Bangalore-560079.

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JAS-ANZ BSCIC ISO 9001 REGISTERED

Job No.: CTCE/BBMP/W.No.09/MSM/STEEL/2016-17 17.06.2016

TEST REPORT ON REINFORCEMENT STEEL

Customer	:	**Asst. Executive Engineer**, Vidyaranyapura Sub Division, BBMP, Bangalore.
Agency	:	**Mr. M. Srinivasa Murthy,** #17, Jyothi Gas Godown, 6th Cross, Kurubarahalli, Bangalore – 86.
Name of the Work	:	Improvements and Asphalting to roads, drains and Construction of culverts at Deshabandunagar, Puttanjinappa Layout & Krishna Temple area in Ward No.09 Vidyaranyapura Sub Division, BBMP, Bangalore.
Reference	:	AEE/BBMP/VSD/PR/275/2016-17 Dated: 13.06.2016
Date of Test	:	17.06.2016
Technical Reference	:	IS: 1786-2008

Assistant Executive Engineer Vidyaranyapura Sub Division BBMP, Bangalore - 97

Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm^2	Tensile strength (Ultimate stress) N/mm^2	Elongation percent gauge length		
1	10	0.62	513	556	13.20	O.K	O.K

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Reference	:	AEE/BBMP/VSD/PR/275/2016-17 Dated: 13.06.2016
Date of Test	:	17.06.2016
Technical Reference	:	IS: 1786-2008

Assistant Executive Engineer Vidyaranyapura Sub Division BBMP, Bangalore - 97

Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm^2	Tensile strength (Ultimate stress) N/mm^2	Elongation percent gauge length		
1	16	1.58	520	563	13.60	O.K	O.K

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T-2377

Job No.: CTCE/BBMP/W.No.09/MSM/CSR-06/064e/CUBE/2016-17 18.07.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	: **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
* Agency	: **Mr. M. Srinivasa Murthy,** #17, Jyothi Gas Godown, 6th Cross, Kurubarahalli, Bangalore – 86.
* Name of the work	: Improvements and Asphalting to roads, drains and Construction of culverts at Deshabandunagar, Puttanjinappa Layout & Krishna Temple area in Ward No.09 Vidyaranyapura Sub Division, BBMP, Bangalore.
* Reference	: AEE/BBMP/VSD/PR/275/2016-17 Dated: 13.06.2016
* Sample ID	: RCC Drain Concrete
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
Technical Reference	: IS: 516-1959 (Reaffirmed 2008)
* Grade of Concrete	: M_{20}
Compressive Strength as on	: 28th day
Sample Received on	: 18.07.2016

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	20.06.2016	18.07.2016	8.112	478.3	21.26
2	20.06.2016	18.07.2016	8.259	490.2	21.79
3	20.06.2016	18.07.2016	8.326	510.2	22.68

Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore-97

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Quality Manager

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

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T-2377

Job No.: CTCE/BBMP/W.No.09/MSM/CSR-06/064e/CUBE/2016-17 20.07.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	: **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
* Agency	: **Mr. M. Srinivasa Murthy,** #17, Jyothi Gas Godown, 6th Cross, Kurubarahalli, Bangalore – 86.
* Name of the work	: Improvements and Asphalting to roads, drains and Construction of culverts at Deshabandunagar, Puttanjinappa Layout & Krishna Temple area in Ward No.09 Vidyaranyapura Sub Division, BBMP, Bangalore.
* Reference	: AEE/BBMP/VSD/PR/275/2016-17 Dated: 13.06.2016
* Sample ID	: RCC Drain Concrete
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
Technical Reference	: IS: 516-1959 (Reaffirmed 2008)
* Grade of Concrete	: M_{20}
Compressive Strength as on	: 28th day
Sample Received on	: 20.07.2016

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	22.06.2016	20.07.2016	8.182	479.6	21.32
2	22.06.2016	20.07.2016	8.290	511.6	22.74
3	22.06.2016	20.07.2016	8.315	510.2	22.68

Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore - 97

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Job No.: CTCE/BBMP/W.No.09/MSM/CSR-06/064e/CUBE/2016-17 27.07.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* **Customer** : **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.

* **Agency** : **Mr. M. Srinivasa Murthy,** #17, Jyothi Gas Godown, 6th Cross, Kurubarahalli, Bangalore – 86.

* **Name of the work** : Improvements and Asphalting to roads, drains and Construction of culverts at Deshabandunagar, Puttanjinappa Layout & Krishna Temple area in Ward No.09 Vidyaranyapura Sub Division, BBMP, Bangalore.

* **Reference** : AEE/BBMP/VSD/PR/275/2016-17 Dated: 13.06.2016

* **Sample ID** : Culvert Deck Slab Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

* **Grade of Concrete** : M_{20}

Compressive Strength as on : 28th day

Sample Received on : 27.07.2016

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	29.06.2016	27.07.2016	8.110	476.3	21.17
2	29.06.2016	27.07.2016	8.235	493.2	21.92
3	29.06.2016	27.07.2016	8.310	512.2	22.76

Assistant Executive Engineer Vidyaranyapura Sub Division BBMP, Bangalore-97

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Job No.: CTCE/BBMP/W.No.09/MSM/CSR-06/064e/CUBE/2016-17 29.07.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	: **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
* Agency	: **Mr. M. Srinivasa Murthy,** #17, Jyothi Gas Godown, 6th Cross, Kurubarahalli, Bangalore – 86.
* Name of the work	: Improvements and Asphalting to roads, drains and Construction of culverts at Deshabandunagar, Puttanjinappa Layout & Krishna Temple area in Ward No.09 Vidyaranyapura Sub Division, BBMP, Bangalore.
* Reference	: AEE/BBMP/VSD/PR/275/2016-17 Dated: 13.06.2016
* Sample ID	: Road Concrete
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
Technical Reference	: IS: 516-1959 (Reaffirmed 2008)
* Grade of Concrete	: M_{20}
Compressive Strength as on	: 28th day
Sample Received on	: 29.07.2016

Sl.No	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	01.07.2016	29.07.2016	8.117	476.6	21.18
2	01.07.2016	29.07.2016	8.225	490.3	21.79
3	01.07.2016	29.07.2016	8.310	510.2	22.68

Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore - 97

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Job No.: CTCE/BBMP/W.No.09/MSM/CSR-06/064e/CUBE/2016-17 30.07.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	: **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
* Agency	: **Mr. M. Srinivasa Murthy,** #17, Jyothi Gas Godown, 6th Cross, Kurubarahalli, Bangalore – 86.
* Name of the work	: Improvements and Asphalting to roads, drains and Construction of culverts at Deshabandunagar, Puttanjinappa Layout & Krishna Temple area in Ward No.09 Vidyaranyapura Sub Division, BBMP, Bangalore.
* Reference	: AEE/BBMP/VSD/PR/275/2016-17 Dated: 13.06.2016
* Sample ID	: Road Concrete
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
Technical Reference	: IS: 516-1959 (Reaffirmed 2008)
* Grade of Concrete	: M_{15}
Compressive Strength as on	: 28th day
Sample Received on	: 30.07.2016

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	02.07.2016	30.07.2016	8.119	485.5	21.58
2	02.07.2016	30.07.2016	8.256	492.6	21.89
3	02.07.2016	30.07.2016	8.336	510.3	22.68

Assistant Executive Engineer Vidyaranyapura Sub Division BBMP, Bangalore - 97

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Job No.: CTCE/BBMP/W.No.09/MSM/WMM/Gradation/2016-17

11.07.2016

GRADATION FOR WMM
MORTH TABLE-400-11

Customer : **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.

Agency : **Mr. M. Srinivasa Murthy,**
#17, Jyothi Gas Godown, 6th Cross, Kurubarahalli, Bangalore – 86.

Name of Work : Improvements and Asphalting to roads, drains and Construction of culverts at Deshabandunagar, Puttanjinappa Layout & Krishna Temple area in Ward No.09 Vidyaranyapura Sub Division, BBMP, Bangalore.

Reference : AEE/BBMP/VSD/PR/275/2016-17 Dated: 13.06.2016

Date of Testing : 11.07.2016

Material : WMM

Sample Location : WMM Mix Plant

Oven Dry Wt (gm): 8260

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	200	200	2.4	97.6	95-100
22.4	2505	2705	32.7	67.3	60-80
11.2	1250	3955	47.9	52.1	40-60
4.75	1120	5075	61.4	38.6	25-40
2.36	990	6065	73.4	26.6	15-30
0.600	965	7030	85.1	14.9	8-22
0.075	850	7880	95.4	4.6	0-8

Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP, Bangalore - 97

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Job No.: CTCE/BBMP/W.No.09/MSM/WMM/AIV/2016-17

11.07.2016

Aggregate Impact Value

IS: 2386 Part IV

Customer	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
Agency	**Mr. M. Srinivasa Murthy,** #17, Jyothi Gas Godown, 6th Cross, Kurubarahalli, Bangalore – 86.
Name of the Work	Improvements and Asphalting to roads, drains and Construction of culverts at Deshabandunagar, Puttanjinappa Layout & Krishna Temple area in Ward No.09 Vidyaranyapura Sub Division, BBMP, Bangalore.
Reference	AEE/BBMP/VSD/PR/275/2016-17 Dated: 13.06.2016
Source / Location	WMM Plant
Type of Mix	Wet Mix macadam
Date of Testing	11.07.2016

Sl No.	Details	Trial No. 1	Trial No. 2	Average
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	379	382	
2	Weight of aggregate passing 2.36 mm sieve after the test = W_2 g	78	79	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	301	303	
4	Aggregate Impact value = percent fines	20.58	20.68	
	$100^* (W_2/W_1)\%$			20.63

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Comments:

→ Maximum allowable Aggregate Impact value for Wet mix Macadam is 30%

Note:

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Job No.: CTCE/BBMP/W.No.09/MSM/WMM/S-T/2016-17 11.07.2016

DETERMINATION OF FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

Customer	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
Agency	**Mr. M. Srinivasa Murthy,** #17, Jyothi Gas Godown, 6th Cross, Kurubarahalli, Bangalore – 86.
Name of Work	Improvements and Asphalting to roads, drains and Construction of culverts at Deshabandunagar, Puttanjinappa Layout & Krishna Temple area in Ward No.09 Vidyaranyapura Sub Division, BBMP, Bangalore.
Reference	AEE/BBMP/VSD/PR/275/2016-17 Dated: 13.06.2016
Technical Reference	IS 2386(Part 1) 1963 (RA 2011)
Type of Mix	Wet Mix Macadam
Date of Testing	11.07.2016

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Result : Flakiness Index = **12.35%**

Elongation Index = **13.30%**

Result : Combined Flakiness & Elongation index **25.65%**

Comments:

Maximum allowable Flakiness & Elongation Index for Wet Mix Macadam is 30%

Note:

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Bangalore-560079.

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T-2377

Job No.: CTCE/BBMP/W.No.09/MSM/CSR-06/064e/QB/2016-17 18.07.2016

TEST REPORT ON DETERMINATION OF BITUMEN CHARACTERISTICS

*CUSTOMER	:	**Asst. Executive Engineer**, Vidyaranyapura Sub Division, BBMP, Bangalore.
*AGENCY	:	**Mr. M. Srinivasa Murthy,** #17, Jyothi Gas Godown, 6th Cross, Kurubarahalli, Bangalore – 86.
*NAME OF THE WORK	:	Improvements and Asphalting to roads, drains and Construction of culverts at Deshabandunagar, Puttanjinappa Layout & Krishna Temple area in Ward No.09 Vidyaranyapura Sub Division, BBMP, Bangalore.
REFERENCE	:	AEE/BBMP/VSD/PR/275/2016-17 Dated: 13.06.2016
*SAMPLE ID	:	Bitumen
DATE OF SAMPLING	:	16.07.2016
DATE OF TESTING	:	18.07.2016

The results of the tests conducted on the bitumen sample.

Sl. No	Description	Test Method as per IS	Test Result	Requirement as per IS:73:2013
1	Penetration at 25 ^{0}C, 1/10 mm	IS :1203 -1978 (RA-2009)	82	80 to 100
2	Softening point, ^{0}C	IS :1205 -1978 (RA-2009)	46	Min. 40
3	Ductility at 27^{0}C, cm	IS :1208 -1978 (RA-2009)	100 >	Min. 75
4	Flash Point, ^{0}C	IS :1209 -1978 (RA-2009)	298	Min. 220

*Information is furnished by the Customer/Representative.

Assistant Executive Engineer Vidyaranyapura Sub Division BBMP, Bangalore-97

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VISHWANATH .C
Quality Manager

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
Tele Fax : 23223227, Website : www.civiltechconsultants.com
E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com

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Job No.: CTCE/BBMP/W.No.09/MSM/SDBC/Bit/2016-17 21.07.2016

BITUMEN CONTENT DETERMINATION OF SEMI DENSE BITUMINOUS CONCRETE MIX

AS per IRC:SP:-1984

CUSTOMER	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
AGENCY	**Mr. M. Srinivasa Murthy,** #17, Jyothi Gas Godown, 6th Cross, Kurubarahalli, Bangalore – 86.
NAME OF THE WORK	Improvements and Asphalting to roads, drains and Construction of culverts at Deshabandunagar, Puttanjinappa Layout & Krishna Temple area in Ward No.09 Vidyaranyapura Sub Division, BBMP, Bangalore.
REFERENCE	AEE/BBMP/VSD/PR/275/2016-17 Dated: 13.06.2016
SAMPLE I/D	Roads in Seetharamaiah layout Ward No.09, BBMP, Bangalore.
DATE OF TESTING	21.07.2016

BITUMEN CONTENT DETERMINATION

Description	Trail 1	Trail 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	475	474
3. Weight of Asphalt and Mineral matter Extracted, g	-	-
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g		
6. Weight of Bitumen Extracted, g. (corrected)	25	26.00
7. Bitumen content in %	5.00	5.20
8. Average	**5.10**	

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Job No.: CTCE/BBMP/W.No.09/MSM/SDBC/Bit/2016-17 21.07.2016

BITUMEN CONTENT GRADATION DETERMINATION OF SEMI DENSE BITUMINOUS CONCRETE MIX

As per IS2386 and IRC:SP:11-1984

CUSTOMER	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
AGENCY	**Mr. M. Srinivasa Murthy,** #17, Jyothi Gas Godown, 6th Cross, Kurubarahalli, Bangalore – 86.
NAME OF THE WORK	Improvements and Asphalting to roads, drains and Construction of culverts at Deshabandunagar, Puttanjinappa Layout & Krishna Temple area in Ward No.09 Vidyaranyapura Sub Division, BBMP, Bangalore.
REFERENCE	AEE/BBMP/VSD/PR/275/2016-17 Dated: 13.06.2016
SAMPLE I/D	Roads in Seetharamaiah layout Ward No.09, BBMP, Bangalore.
DATE OF TESTING	21.07.2016

GRADATION AFTER EXTRACTION

Sieve Size in mm	Trail 1				Specified Limits as per MORTH specification table 500-15 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
13.2	0	0	0	100	100
9.5	25.26	5.32	5.32	94.68	90-100
4.75	260.8	54.91	60.22	39.78	35-51
2.36	52.26	11.00	71.23	28.77	24-39
1.18	38.15	8.03	79.26	20.74	15-30
0.3	32.15	6.77	86.03	13.97	9-19
0.075	32.26	6.79	92.82	7.18	3-8

Sieve Size in mm	Trail 2				Specified Limits as per MORTH specification table 500-15 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
13.2	0	0	0	100	100
9.5	25.15	5.31	5.31	94.69	90-100
4.75	265.3	55.97	61.28	38.72	35-51
2.36	36.36	7.67	68.95	31.05	24-39
1.18	33.15	6.99	75.94	24.06	15-30
0.3	43.15	9.10	85.04	14.96	9-19
0.075	44.15	9.31	94.36	5.64	3-8

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Tele Fax : 23223227, Website : www.civiltechconsultants.com

E-mail : vishwanath.ia@civiltechconsultants.com / info@civiltechconsultants.com